

Summary Report for the  
Stakeholder Meetings and Space-use Mapping  
Exercises of the  
Grenadines Marine Space Use Information System  
(MarSIS)



**A summary of stakeholder meetings & feedback  
and participatory marine resource user mapping exercises  
from Grenada, St. Vincent and the Grenadine Islands**

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## **INTRODUCTION**

Marine resources (including fishing and marine-based tourism) are of vital importance to the people of the Grenadines. A greater understanding of the abundance and distribution of key marine resources, marine resource users and the patterns of use is critical to planning and the sustainable use of the coastal resources of the Grenadines. Effective coastal resource management must balance the sustainable use, resource protection and conservation within the communities' need for food security, livelihood and equitable use of resources. Therefore, multi-sectoral collaboration and strong community participation is required to successfully maximise management efforts.

The Grenadines MarSIS research will aim to integrate social, economic, policy, cultural and biophysical marine resource information in a single GIS framework to aid effective coastal resource management and sustainable livelihoods. By including the social frame of reference and local knowledge with traditional scientific approaches, important information gaps can be filled, potential problems can be identified and management priorities focused accordingly. Furthermore, involving a range of stakeholders in the information gathering and research processes allows for a participatory framework for comanagement and equity in decision making by meaningfully including and considering all sectoral and community interests.

## **REVIEW OF GRENADINES MarSIS PARTICIPATORY METHODOLOGY**

A variety of stakeholder participation is essential for the success of the Grenadines MarSIS project. Therefore, summary reports (similar to this report) will be produced and distributed after each of the following phases of the project in order to document methodologies used, information collected and general response to activities in order to exchange information and the progress of the project among all stakeholders in a transparent fashion. Additionally, a multi-stakeholder e-group has been established to facilitate integrated communications on the Grenadines MarSIS project. All reports, files and updates on the current status of the project will also be available at:  
<http://groups.yahoo.com/group/grenadinesMarSIS/>.

## **TIMEFRAME OF GRENADINES MarSIS RESEARCH**

### **DEVELOPMENT OF THE GRENADINES MarSIS (June 2005 – March 2006)**

- Data collected & reviewed
- Constructed Grenadines MarSIS framework
- Identified information gaps
- Conducted initial Government stakeholder proposal meetings

### **DATA SCOPING & STAKEHOLDER ASSESSMENT (May 2006)**

- Present MarSIS project to Grenadines Communities & NGO key informants
- Interview marine resource user key informants
- Collected additional secondary information
- Visits to government agencies: id structure and management of data collection
- Verified existing datasets

## COMMUNITY ENGAGEMENT & MARINE RESOURCE USER INVENTORIES

(June – August 2006)

- Community presentations of MarSIS
  - Introduce purpose and importance of MarSIS project
  - Feedback from preliminary data scoping
  - Identify community interest and information needs
- Socio-economic and livelihood analyses of marine resource users
  - 2 Categories: Fishers & Other Marine Resource Users
    - Used to determine resource use patterns
      - Spatial distribution, intensity, activity profiles, conflicts
    - SOCMON Caribbean & DFID Sustainable Livelihoods Methodologies
      - Assisted by 2 CERMES MSc research students
      - Initial spatial information collected
      - Socio-economic and livelihood technical reports & spatial information datasets will be produced for both groups
- Collection of local names for various marine areas and fish for base maps

## STAKEHOLDER PRESENTATIONS & SPACE-USE DATA COLLECTION (October 2006)

- Community presentations of MarSIS (feedback & validation)
  - Introduce purpose and importance of MarSIS project
  - Results from Marine Resource User Inventories
  - Results of Fisher Socio-economic & Livelihood Studies
- Community presentations of local maps (validation & distribution of maps)
- Mapping Exercises for Fishers and Other Marine Resource Users Space-use
  - Fishers: Focus group meetings to identify fishing banks
  - Other Important Marine Resource User Areas: Mapping interviews

## MARINE RESOURCE & COASTAL HABITAT DATA COLLECTION (February 2007)

- Stakeholder meetings & feedback from government, NGOs and communities
- Mapping exercises for important marine habitats / coastal areas
- Further data collection
  - Trading vessels/ships re-inventory
  - Martinique influence (fishing & tourism)

## 2007 - 2008 ACTIVITIES

- Identify & collect additional field data
- Identify areas of space-use conflict/overlap
- Validate marine spatial data collected
- Produce Grenadines marine atlases
- Complete Grenadines MarSIS for implementation
- Evaluation of MarSIS utilisation
- Make marine space use planning suggestions
- Document lessons learnt
- Prepare PhD dissertation

## **SUMMARY OF GRENADINES MarSIS STAKEHOLDER MEETINGS & SPACE-USE MAPPING EXERCISES**

This report is a summary of the various stakeholder meetings which were conducted in order to report back to the various Grenadines stakeholders the preliminary research results from the marine resource user inventories and fisher socio-economic and livelihood studies. MarSIS research objectives and rationale, collecting additional space-use data as well as obtaining feedback and validation from marine resource users was priority. During the month of October 2006, nine islands of the Grenadines (St. Vincent, Bequia, Canouan, Mustique, Mayreau, Union, Petite Martinique, Carriacou and Grenada) were visited and a total of 13 stakeholder meetings were conducted during this period. Of these meetings, two government stakeholder meetings (in St. Vincent and Grenada), two community meetings and nine fisher meetings were held across the Grenadines. This report consists of a general review of each of these meetings, stakeholder feedback and validation as well as some of the many lessons learnt from the utilisation of various mechanisms for stakeholder engagement including: the planning, advertising, location and timing of the various meetings. Furthermore, participatory mapping exercises were conducted during this data collection trip in order to collect additional spatial information needed for Grenadine fishers and other marine resource users. A review of the various participatory mapping methods which were utilised, lessons learned and recommendations for subsequent mapping exercises will also be briefly discussed in this report.

### **STAKEHOLDER MEETINGS**

#### ***GOVERNMENT STAKEHOLDER MEETINGS***

Two government stakeholder meetings were held, one each in St. Vincent and Grenada. Both of these meetings were held at the respective Fisheries Division's conference rooms. Meetings were advertised through email invitations to government stakeholders and several postings made on the MarSIS egroup. Each government meeting consisted of a review of the MarSIS research project, objectives, methodologies, timeframe and progress thus far. The remainder of these meetings consisted of: a brief overview of the results from the marine resource user inventories and summaries of the fishing socio-economic and livelihood studies which were conducted during June-August. Each meeting allowed time for questions; feedback and suggestions on the research as well as areas of interest/further exploration by government stakeholders.

Government meetings were attended primarily by Fisheries Division representatives. The St. Vincent government meeting was well attended by a range of stakeholders. In Grenada, however the meeting was poorly attended. This may have been due to a change in date and communication problems between members of the Fisheries Division. It must be noted that attendance was better at the previous government stakeholder meetings; in which official faxes and personal phone calls were the main communication mechanisms used to contact each department. Below is a review of each of the government stakeholder meetings which were held during October 2006.

<b>Meeting:</b>	St. Vincent Fisheries Division	<b>Date:</b>	6/10/2006
<b>Location:</b>	St. Vincent Fisheries Building	<b>Numbers in attendance:</b>	13
<b>Time/Duration of meeting</b>	Began at 11:00am and finished approximately around 12:30pm		

*Notes:*

The audience consisted of representatives from the Departments of Fisheries, Forestry, Planning, Education, the Prime Minister's Office, and the UNDP. There were quite a few questions and comments regarding the findings from the fishers' study. Everyone commended the effort behind the projects and is looking forward to seeing the technical reports. Some results were surprising to government stakeholders, in particular the issues Grenadine fishers had with respect to the lack of fishing co-operatives and government support in this process. The Chief Fisheries Officer stated that the government has tried in the past to assist fishers in forming co-operatives as well as provide financial subsidies to fishers. A major problem, he stated is that the majority of those fishers operating in the Grenadines are not currently registered with the Division. Support for the organization of fishers has also attempted several times in the past and that were happy to hear that the fishers are now realising the importance of co-operatives. The audience are also looking forward to the building of and the continuation of the MarSIS project.

<b>Meeting:</b>	Grenada Fisheries Division	<b>Date:</b>	18/10/2006
<b>Location:</b>	Melville Street Fish Complex	<b>Numbers in attendance:</b>	5
<b>Time/Duration of meeting</b>	The presentation began at 10:45am and finished at 12:30pm		

*Notes:*

The audience consisted of representatives from the Departments of Fisheries, Forestry, Planning as well as an environmental research consultant. There were quite a few questions and comments regarding the findings accessibility of the MarSIS to the general public as well as from the fishers' study. Stakeholders commented that the fishing socio-economic findings and livelihood results were similar to other livelihood studies which have been conducted on the mainland of Grenada. The importance of the MarSIS information collected thus far, as well as its implementation and utilisation for planning purposes in the PM and Carriacou Physical Development Plan was addressed by Mr. Purcell. The audience commended the research team on their efforts and are looking forward to the release of upcoming technical reports and GIS shapefiles and the continuation of the MarSIS project.

**COMMUNITY STAKEHOLDER MEETINGS**

Community stakeholder meetings were planned for every Grenadine island but only held in two of the Grenadine islands. At the onset of this trip, we attempted to hold two separate meetings in each Grenadine island, keeping fishers and community stakeholder meetings separate. Community meetings were organised with the assistance of key informants designated in each island. Email and phone communication began weeks before the field research trip. Key informants were asked to identify a location and appropriate time for community meetings as well as assisting advertising the

meeting by posting flyers in the community which were sent to them in advance electronically. Although meeting locations and times were successfully scheduled through the assistance of a key informant, only two key informants actually advertised the meetings in the communities before our arrival. It was realised that for community meetings to be successful, more time is needed in each community upon arrival to spread the word and publicise the meetings. Additionally, it was suggested by community members that the use of additional communication mechanisms such as radio advertisements may be necessary for better attendance. Moreover, due to the unique nature of each Grenadine island special consideration must be taken for each island depending on the dynamics of the various Grenadines' communities. Therefore, the next field collection trip more focus will need to be on community engagement in the MarSIS research in order for better involvement in participatory coastal mapping exercises. Below is a short review of the two community stakeholder meetings which were held.

<b>Meeting:</b>	Bequia Community Meeting	<b>Date:</b>	7/10/2006
<b>Location:</b>	Bequia Community School	<b>Numbers in attendance:</b>	1
<b>Time/Duration of meeting</b>	It was the intention to start the meeting at 4:30, but when it was clear no one else would come, we started a little after 5pm, until around 6pm		

*Notes:*

It was a very rainy day which may have affected the poor turnout. Several key informants and marine resource users were called and visited the day before as well as the day of the community meeting. Mr. Belmar, our key informant who was responsible for setting up the meeting time and location was the only person in attendance at this community meeting. He made corrections to and validated the Bequia local name map which was created by Bequian communities this summer. He also found the projects very interesting, made a few comments about the fishers and agreed with many of the findings.

<b>Meeting:</b>	Mustique Community Meeting	<b>Date:</b>	9/10/2006
<b>Location:</b>	Community Centre (Church near airport)	<b>Numbers in attendance:</b>	27 (2 kids as well)
<b>Time/Duration of meeting</b>	The presentation began at 7:10pm until 8:00pm; Questions lasted for 26 minutes; community members stayed until 9:30pm talking about marine resources and issues		

*Notes:*

This was the only Grenadine Island in which several community members knew about the meeting upon our arrival. Flyers were posted all around the community by our key informant before we arrived and several community members had heard about the meeting which was scheduled for the next day. This community meeting was well attended and community members agreed with the goals and importance of the research. There were no questions about the overall project, but after the fishers' presentation, one member of the audience in particular was very interested in the fishers' issues and seemed to have little sympathy for the fishermen. The discussion branched off into pollution of the marine environment and other related topics. Final comments were that it is an interesting study however we really need to wait and see what support will be given by fishers.

Mapping exercises were conducted after the meeting with members of the dive shop to document their marine space-use. Raymond gave us all a big thank you for our efforts on behalf of the other attendees.

### ***FISHER STAKEHOLDER MEETINGS/FISHING MAPPING EXERCISES***

Fisher stakeholder meetings were combined with the fishing bank mapping exercises in order to prevent burn-out of fisher participants. Fisher stakeholder meetings were held in every major fishing community in the Grenadines, for a total of 9 fisher stakeholder meetings. Additional consideration was taken to hold fishing meetings in areas where the fishers felt most comfortable (ie: rum shops, fishing camps) and at times convenient to fishing activities (ie: early evenings). Locations and times were chosen on after consultation with fishing key informants designated in each fishing community.

At each fisher stakeholder meeting, a short presentation was made on the goals and purpose of the MarSIS research as well as the role of stakeholder involvement (namely fishers) in the research. Two short fishing presentations were then given by the two CERMES MSc students summarising the results of the Grenadine fisher socio-economic and livelihood studies. Fishers were asked to comment on the findings, validate information collected and identify areas of disagreement or further issues. This usually resulted in a short question and answer period in which key issues by fishing community are summarised below. At every fishing stakeholder meeting, fishers were then asked to participate in a fishing mapping exercise. Interested fishers were introduced to a large (3' by 5") basemap of the Grenada Bank (Appendix 1). The basemap was posted on a wall and reviewed with participants making sure everyone was familiar with the various islands' coastlines, reef structures and bathymetry contour lines before mapping exercises began. Again a brief summary of the use and importance of the information collected was reviewed with fishers.

Participants were then asked to identify fishing priority areas by species (ie: areas in which they use and see as important fishing banks) by placing coloured circular stickers (each representing 1 square mile) on the basemap. Participants were given pictorial handouts of the various fish species categories to be mapped. Handouts also contained the associated sticker colour-code for reference to the various species to be mapped. After participants placed each sticker on the basemap, they were asked which gear was used and to rate the importance of the fishing bank as either: high, medium or low importance for fishing. Notes were taken throughout each mapping exercise to identify gears and fishing trends which could not be spatially captured using the stickers (ie: migratory fish banks). Although every attempt was made to replicate the same exact methodology; each mapping exercise proved to be a little different (see notes by island below) depending on participants as well as the varied types of participation (ie: some more dominate than others; young vs. old fishers). In cases where a dominate fisher 'took over' the mapping exercise, facilitators made every attempt to get other fishers to come up and comment or add to the map afterward. The topic of fish spawning aggregations (SPAG'S) was discussed with fishers which actively participated and notes were taken on the SPAG responses by the fishers. For the most part, fishers willingly participated in mapping exercises and eight of nine fishing communities' successfully completed a Grenada Bank fishing mapping exercise.

<b>Meeting:</b>	Bequia Meeting with Fishers	<b>Date:</b>	8/10/2006
<b>Location:</b>	Fishing Complex, Paget Farm	<b>Numbers in attendance:</b>	13
<b>Time/Duration of meeting</b>	Started at 11:30 am. The meeting lasted between 15-20 minutes.		

*Notes:*

The time of this meeting was on a Sunday at mid-day. There were many fishers around the fisheries complex, but they were there to race their mini-sailboats on their day off. The current renter of the fishing complex, Mr. Lonely, and the Fisheries Officer, Lezlian were in attendance along with 11 other fishers. Only the results of the socio-economic and livelihood analyses were presented at this meeting since it took a lot of coaxing to get the fishers to even hear the presentation. According to the Fisheries Division representative Lezlian, 90% of the results were “spot on.” The only disagreements the fishers had were that the high range for conch prices (\$15/lb) was a huge overestimation, and that a weekly catch of 900 lbs. for robins and jacks was also excessive. The fishers were quite hurried to leave the meeting to catch the good wind for racing their mini sail boats. We briefly spoke to the fishers about the importance of the fishing mapping exercise and after talking with Lezlian it was decided to approach them for this information after the sailing activities that afternoon.

<b>Meeting:</b>	Bequia Mapping Exercise with Fishers	<b>Date:</b>	8/10/2006
<b>Location:</b>	Mr. McInnis’s Rum Shop, Paget Farm	<b>Numbers in attendance:</b>	varied
<b>Time/Duration of meeting</b>	The exercise lasted for approximately 1-1.5 hours		

*Notes:*

The mapping exercise started off by distributing the coastline maps with the local names of Bequia. The large basemap of the Grenadines was laid on the floor and we all sat around for the process while stickers were placed in their various locations. The bathymetry contours and the 300ft drop-off were explained before the mapping exercise began.

Identifying areas for lobster fishing began with 4 fishers, two of which dominated this exercise and were laying down a lot of dots. Each dot was marked as areas of high, medium and low quantities of this species. According to the two fishers, pots and diving were the primary methods for catching the lobster. Another young diver for fish and lobster came along and agreed with the areas that were already marked off.

Shallow demersal fish were then identified on the map, again dominated by the two divers who located the lobster grounds. Edward Best, identified areas of importance to conch and came to help point out locations. Some complained that the dots were too big to mark off a particular area. We tried to move on to offshore pelagics, but one fisher interjected so he could add another spot for conch. Then more people became involved and all of a sudden there were 9 men surrounding the map. One fisher brought up boundary issues and said that it was wrong for Grenada Grenadines fishers to fish in the St. Vincent and the Grenadines waters.

Dolphinfish and offshore pelagics were said to be located all along the 300ft bank drop-off. Turtles are found anywhere and according to one fisher, “When you look for conch, you catch turtle. When you look for lobster, you catch turtle” which indicated that they are opportunistically caught, rather than directly targeted.

After approximately 45 minutes, the participants began to get burned out and started walking away from the map and went to the side to talk. We then tried to identify grounds for the inshore pelagics but according to the guys they are not really found in one spot. Additional stickers representing deep-slope demersal species were then stuck on the map by 4 fishers.

A new fisher came to the map and dominated the exercise at this point and he described his fishing route – start off at PM and drift north towards Sail Rock. He then started to disagree with the map and said it was wrong so Kim spent a bit of time going through the islands. It was apparent that the orientation of the map may have been confusing to this fisher. It was recognised that the basemap placed on the ground was in the opposite direction of true North and therefore the map was repositioned so that the islands lined up with the correct North-South compass position. The same fisher also identified areas for jacks and robins around Canouan.

Getting intensity information was not easy because there was some confusion as to the number of fish caught in the area vs. how often fishers would fish in that area. Also as stickers for one fish group were laid down, some would move straight into another fish group. This made it hard to go back to the intensities after covering the areas. As a result, intensities for shallow and deep demersals and robins were not marked.

Towards the end of the exercise, only 8 guys remained around the shop, with 6 of them talking about fishing nearby after they lost interest in the map. Throughout the meeting the guys would look at the laminated handouts of pictures of the various fish groups and seemed to be impressed by them. Kim then gave out small basemaps of the Grenadine islands before we wrapped up.

<b>Meeting:</b>	Mustique Meeting and Mapping Exercise with Fishers	<b>Date:</b>	9/10/2006
<b>Location:</b>	Mustique Fishing Complex	<b>Numbers in attendance:</b>	18
<b>Time/Duration of meeting</b>	The presentation took 15 minutes; Mapping began at 4:00pm until 4:45pm		

*Notes:*

The fishers only had disagreements with the price for conch and average catch for inshore pelagics which were both too high. Otherwise they seemed interested and attentive. Maps of local names of Mustique and the basemap of the Grenada Bank were distributed among fishers. These maps discussed and reviewed briefly. The mapping exercise began right afterwards as a diver started sticking for snapper and grouper along the eastern side of the bank. Two other fishers were curiously standing by but not getting involved. Four guys were standing off to the side having conversation and a couple sat down to study the maps more closely.

At this point two fishers, a diver and another older fisher who does hand-lining and towing were dominating the mapping exercise. According to them, a distance of 7-8 miles east of Mustique is fished for offshore pelagics. Because they are always moving it was difficult to rate these species for high, medium or low quantities or intensity of fishing. Shallow and deep slope demersals, offshore

pelagics, lobster and turtle were the first species to be mapped. The fishers stated the importance of the Mustique/Savan area for fishing, hence why they camp out there rather than Bequia.

Fishers were asked what types of fish are found around Balliceaux and Battowia since they had not mapped this area and they mentioned ‘under’ (ie: to the east) these islands you get grouper and lobster. Apparently there used to be a certain spot off of Balliceaux and Battowia where the fish moved after the Hurricane covered the coral and rocks with sand. A fisher complained the fish won’t come back until the sand washes out.

By 4:15pm the other fisher left and only one fisher remained at the map. He identified a lot of robin and jack fishing grounds around Mustique which were hard to rate as high, medium and low quantities/fishing intensity because these species move around a lot.

At 4:33pm Kim tried asking another fisher about spawning aggregations while David engaged another in the mapping. In the mean time the dominate fisher tried to tell the guys playing Dominoes what we were trying to do but still they did not get involved. The fisherman with David mentioned that when the water gets colder lobsters come to the shallow. He continued on to say that right in front of the Mustique Camp there’s a sandy area where there is a lot of conch in the seagrass beds. When conchs are scarce they go to Sail Rock, Canouan and the Tobago Cays. Offshore pelagics are found all around Balliceaux and Battowia around a piece of wood where smaller fish feed on barnacles (screelers). This fisher no longer fishes for the offshore species, however because he’s too old. Instead he’s into handlining for shallow demersals and sometimes for snapper when the tide is good. The fisher also agreed with the livelihood findings and mentioned that at his age, health is the only thing stopping him from fishing because he can’t go to work on the land. He also discussed the impacts of Hurricane Ivan which mashed up the fishing grounds and brought a lot of dead fish to the shore. Kim also tried asking this gentleman about snapper spawning grounds. He said sometimes you can catch 200 lbs. when the mood and tide are good. However, the next time you go back they are gone. He did identify a few spots around Mustique where they catch snapper. With the shallow fishing he said it’s smart to use the current from Canouan that moves north because it saves on gas. For snapper fishing and towing you need a lot of money for fuel.

By 4:45pm the exercise was completed. The same older fisherman was saying that there needs to be a co-op and that trust is a key reason why one has not yet worked. According to him, there were problems with thieving money with past co-op attempts. A final attempt was made to encourage the dominoes table to participate in the exercise but they all said they agreed with the other guys who participated (4 fishers).

<b>Meeting:</b>	Canouan Community/Fishers Meeting and Mapping Exercise	<b>Date:</b>	10/10/2006
<b>Location:</b>	Canouan Primary School	<b>Numbers in attendance:</b>	18 fishers
<b>Time/Duration of meeting</b>	The presentation began at 6:20pm and finished at 7:00pm; the mapping exercise lasted for 26 minutes		

*Notes:*

As the fisheries complex officer was not present on the island it was very difficult to arrange an area to present directly to the fishers at the fishing camp in Friendship Bay. None of the fishers had been told in advance of our arrival or of the meetings. Fishers were solicited by walking the village the afternoon of the meeting spreading the word as well as by some assistance from a fisher key

informant (Nassa) who called a lot of the men from Canouan. Additionally, we went around the fishing complex distributing the results from the fishing study and invited the fishers to the fishing/community meeting at 6:00 pm. A few staying at the camp did attend along with local fishers to the island. There were 18 fishers which attended the meeting. Again the only disagreement with the fishing research was with the conch price. They also informed us of the changes in prices – because gas prices went up in September, the price received for fish also increased. Demersal species are now \$11/lb. and offshore pelagics \$7/lb. The fishers were grateful for the presentation and said that otherwise, everything was spot on and that it was very good information.

Immediately after the presentations the mapping exercise commenced with 5 fishers. The map orientation and laminated handouts of the different species were shown around. This mapping exercise seemed to be dominated by 2 or 3 fishers and two more joined the group of 5 and hung around the back watching the process. This exercise did not follow one species group at a time. Instead the various dots were stuck on the map as certain areas and fish types were brought up. A few guys walked away leaving 4 at the map. The stickers were mostly concentrated around Bequia and Mustique. Fishers also mentioned that Hurricane Ivan has resulted in the scarcity of lobster. Now there were 8 guys around the map, and 3 dominated the sticking. These fishers seemed to know the islands fairly well and be quite familiar with the basemap.

The lobster off of Balliceaux and Battowia is a large area. David then tried to get locations for seine fishing. At 7:14pm 4 guys walked off, leaving only 2 behind at the map. At 7:21pm, 7 guys were around the map as the older fishers now joined in. To the new arrivals, David explained the meaning of the different coloured stickers. Kim tried to get information on the existence of spawning aggregations in Canouan with 2 fishers (one of them who dominated the exercise earlier). They talked about the moon and tides but were not able to identify any specific areas. An older fisher talked about snapper breeding grounds and that there are many species of snapper found at 150 fathoms (approx. 600ft). He actually hauls up his line by hand at this depth. The stickers only went as far south as the Tobago Cays and at 7:26pm there was no one around the map and the exercise was completed. Many of the guys did take the handouts of maps and results from the fishing study, with them when they left.

*General observation: usually at the beginning of the mapping exercise the younger fishers are involved. After they lose interest the older ones will then approach the map. Also this was a good mix of both Bequia fishers staying at the camp, and local Canouan fishers.*

<b>Meeting:</b>	Mayreau Community/Fishers Meeting and Mapping Exercise	<b>Date:</b>	11/10/2006
<b>Location:</b>	MEDO Church Centre	<b>Numbers in attendance:</b>	20 (3 women, ~9 fishers)
<b>Time/Duration of meeting</b>	The presentation began at 5:44pm and finished at 6:25pm; Questions lasted until 6:43pm; the mapping exercise lasted for 15 minutes		

*Notes:*

Due to the small size of Mayreau only one meeting was arranged and advertised. Our key informant, a pastor on the island had made an announcement at church the previous Sunday we were coming to the island. When we arrived the majority of the community had heard we were planning a meeting. Again, due to the close nature of this island community it was not anticipated that there would be a conflict between fishers and the community in general and therefore only one meeting

was planned. This meeting consisted of a variety of persons in attendance. During the Q&A session, Kim was asked to explain the definition of the Grenada Bank and was asked about her level of satisfaction with the project and information we've obtained thus far. Comments and questions surrounding the fishing presentations were next. All in attendance agreed that it would be good to have a Mayreau trading vessel that goes directly to Martinique, rather than the fishers having to depend so much on those in Petite Martinique and the Grenada government. They also disagreed with the prices of conch, and even lobster which would only be sold at \$20/lb by the water-taxi operators to the tourists.

Another issue the fishers had with marine space-use was that the Mayreau Gardens area being designated as a protected area. Community members stated that they were not involved in the decision making and this is an important fishing ground for them. Fishers discussed the importance of deciding amongst themselves areas not to fish (for a certain period of time) in order to give the fish a chance to breed. Should an individual choose not to comply with this decision, he will receive pressure from the remaining community members who support the initiative.

Yet another issue for the fishers was that foreigners, mainly the French charter boats which are catching their bait fish. It was expressed that it is unfortunate the government has prioritized tourism, therefore it seems as though visitors can get away with almost anything.

After the Q&A period fishers were invited to participate in the fishing bank mapping exercise. Immediately nine fishers surrounded the map, and they were briefed on the map's orientation. The exercise was dominated by one fisher who started off with snappers and identifying offshore pelagics near Mustique. Conch was then placed on the map, and two more fishers joined the circle. The one fisher who dominated the process stated that lobsters keep moving.

Quantities of fish (ie: high, low, medium) was also annotated as the group went from one species to the next. According to the fishers, jacks and robins are not really found around here and they are only caught now and then (maybe every 6 months). Now the exercise was dominated by 2 people, with 3 onlookers. They agreed that the shallow water fish are found all around the reef area and turtles are also found everywhere. They said that the Mayreau Gardens is a good spawning area.

*This was the shortest and probably smoothest mapping exercise for the entire trip thus far.*

<b>Meeting:</b>	Petite Martinique Fishers Meeting and Mapping Exercise	<b>Date:</b>	13/10/2006
<b>Location:</b>	Petite Martinique Fishers' Co-operative	<b>Numbers in attendance:</b>	12 (1 woman)
<b>Time/Duration of meeting</b>	The presentation began at 4:55pm and finished at 5:30pm; the mapping exercise lasted for 21 minutes		

*Notes:*

The fishers disagreed with the number of dive shops on the island (they say that there is a dive shop in PM), and also with the conch price (\$15/lb). They did however agree with the cooperativeness of fishers and verified that the co-op is not functioning very well. All in attendance agreed that the presentations did contain good factual information.

The topic of discussion then went on to tourism and how Grenada does not market their Grenadine islands for tourism the way St. Vincent does. Fishers complained of the lack of marketing

particularly in PM. This highlights the importance of fishing to PM since there are few tourism related alternatives in the island.

The mapping exercise began immediately after the presentations and Mr. De Roche (President of the co-op) stated that there are two places he does not want to see ANY kind of beach development: Albert Bay and Mang Bay. These are two important areas for bait fishing. Three guys then approached the map and Kim explained orientation of the basemap. The other guys remained behind looking on the proceedings. Fishers were not as responsive at this meeting and facilitators would have to ask: “What about [this species]” to obtain information on priority fishing areas.

PM fishers stated that snapper is found all over the Grenada Bank, from Sail Rock down to PM. Lobster fishing is very slow this year according to one of the divers. Kim tried to get an idea of how far the fishers go and they said they might go as far north as Mustique because the fishing there is very good. The SVG fishers come south while sometimes the GG fishers go north so they meet up along the way. There was no mention of any sort of transboundary fishing conflicts between fishers of the two countries.

Fishers were asked if they fished around Carriacou and Union to get spatial data on these locations. Fishers were then asked to rank fishing banks as: high, low and medium quantities for some of the species. Turtle was also brought onto the map and it was mentioned that seamoss is found between PM and PSV. Now there were 4 guys involved, two of the older fishers and two younger divers. The offshore pelagics were said to be found along the whole of the drop-off area but the strikes are better on the south-eastern side of the bank. It was stated that Vincentian boats fish around the north-eastern section of the bank.

Fishers were questioned about possible SPAGs but fishers didn’t think they fished that particular species that is said to spawn near Canouan. Isle de Rhonde is visited by fishers from the mainland (Sauters), rather than PM. Apparently there isn’t much of a fishing area there because the drop-off and volcano are so close. The men in the back agreed with everything which was mapped.

<b>Meeting:</b>	Union Island Community/ Fishers Meeting and Mapping Exercise	<b>Date:</b>	14/10/2006
<b>Location:</b>	Ashton Primary School Tobago Cays Office	<b>Numbers in attendance:</b>	0 (Ashton) 5 (2 fishers)
<b>Time/Duration of meeting</b>	The Clifton presentation began at 6:52pm and finished at 8:00pm; the mapping exercise lasted for 15 minutes		

*Notes:*

Union Island was the hardest island by far to hold community and/or fisher meetings. A variety of communication mechanisms were attempted for meetings. We arranged for two meetings, one in Clifton and one in Ashton. Each meeting time and location was decided upon by the recommendations of key informants residing in each of the respective villages. Therefore, a 4:00 pm meeting on a Saturday afternoon was organised in Ashton at the primary school. Additionally, we spent an hour walking the streets before the meeting and trying to encourage fishers to attend. Despite a good attempt, this meeting was a failed attempt for several reasons: (1) the scheduled time was too early in the day, (2) the location was not central or convenient to the fishing residents of Ashton, and (3) not as much advertising took place in Ashton as compared to Clifton. As a result, no one attended the Ashton meeting. After discussing the poor turn-out with residents it was

decided to that the best time would have been to hold a 'street jam' during the week at the crossroad while the guys are liming in the evening time.

Again, the Clifton meeting was poorly attended despite increased advertisement and phone calls. The meetings started off by distributing the maps of local names of Union Island. Although small this meeting was small it was very intimate and conversation came about throughout the presentation. Some questions and discussions which came about included:

**Ras:** After the information has been compiled, will locals have access to it?

**Kim:** Yes, especially the residents of Union Island because this is the base for the SusGren Office. A bibliography of all the documentation with regards to the Grenadines is currently being created and will soon be available online for free. The project will identify appropriate offices to house the information, in order to make it available to people without computer access.

**Ras:** What about the last natural disaster (storm)? Did this survey identify any impacts it may have had on the coral reefs?

**Kim:** Next year there will be more opportunity for under water surveys as currently the study has had more focus on resource users and uses. But most likely yes, the storm did impact the coral reefs which are weakened by human activities such as pollution etc.

**Ras:** The fishing banks have also been damaged.

There was general agreement that fishers are also Water Taxi Operators.

**Ras:** A good tourism season should also reflect on the ferries' business and markets.

**Kim:** True, yet according to the ferries though, less than 5% of their business comes from tourists (aside from Bequia and Carriacou). 95% of the ferries report that business is from local residents; also the ferries do not change their schedule according to the high tourist season.

**Ras:** I meant business in general.

**Kim:** Oh yes for sure by catering indirectly for tourists by transporting goods required for hotels and restaurants (although the ferries themselves do not realise this dependence).

Kim explained how the Grenada Grenadines are much less dependent on tourism than the St. Vincent Grenadines and this is largely due to a lack of marketing. Everyone agreed to this.

It was also apparent that due to the lack of attendance by both fishers and community members, there is a lack of cohesion between the people of the island. One fisher complained that fishers of Union are fed up! The Chief Fisheries Officer, Mr. Ryan, did not even attend the fishing meeting that was held a while back. Instead he went to the Wtop's meeting. The fishers are upset by the lack of his presence and involvement in fishing in the Grenadines. Ras commented on how important this research is as it shows the need for safety equipment. Most importantly, he believes that educating the fishers and teaching them the skills required to manage themselves is necessary in order to form an organization.

Another participant is thinking of forming a company that focuses on deep sea fishing. He claims that the Agricultural Diversification Fund is more suited for farmers but is also available to fishers. However, the government needs to make the process clearer for the fishers. The issue of non-locals fishing in SVG waters was also an issue brought up by Mr. Adams.

Kim asked if there is a better way to reach out to the fishers and get them to attend these meetings we're holding for their benefit. Ras suggested the Adult Literacy Campaign is a good method, especially during Tourism Awareness week where they will be trying to target both fishers and WTOPs to join the literacy programme. Mr. Adams suggested that having a street meeting on a week night would be the best way to grab the fishers' attention.

At 8:05pm Kim started the mapping exercise and explained the process and the islands to the 4 participants:

- South east of Sail Rock is good for Red Snapper
- Conch and lobster are found coming over to Petite Tabac
- Lambie is also found between Canouan and Mayreau
- Lobster is found in the shallows over Palm Island
- Stanley took out the Union Map (local names) and identified Richmond, Chatam and Bloody as good bays for catching bait fish (jacks and sprats)
- Mayreau and Glossy Bay in Canouan are also good for bait fish
- Deep snapper are found off of Union as well, to the north west where there aren't any reefs (divers use the reefs)
- Snapper and Grouper line the whole bank and are found all the way up the western side
- Offshore pelagics are found in the same areas as the deep snappers
- The Eastern side of the bank is better for fishing offshore pelagics and snapper because there is more open ocean
- Long-lining takes place all the way down the western side of the bank from Bequia straight down
- Turtles are found all between the Tobago Cays where there is a very high population right now

<b>Meeting:</b>	Windward Community/ Fishers Meeting and Mapping Exercise	<b>Date:</b>	16/10/2006
<b>Location:</b>	Sunrise Bar	<b>Numbers in attendance:</b>	21
<b>Time/Duration of meeting</b>	The presentation began at 6:17pm and finished at 6:52pm; the mapping exercise lasted for 23 minutes		

*Notes:*

The meeting started with the distribution of local maps of Carriacou while people waited on the presentation to begin. Throughout the presentations there were a few questions from this relatively talkative group:

**Question:** Were the fishing boats registered?

**Answer:** Aside from a couple, the ones in the SVG were not registered. In fact we stopped asking the question in our interviews because no one was registered.

**Question:** How will this project benefit us?

**Answer:** By getting fishers more involved in decision making that affects the marine environment.

**Question:** What can be done about there being less fish?

**Answer:** The Grenadian government did train a few fishers in long-lining when they realised that there was too much pressure on the shallow ground species. There is also the possibility of branching off into the deep bank demersals (snapper etc.) whose stocks are not yet considered to be overexploited. The fact that there is less fish in the sea is a worldwide problem, but what works in one country might not be appropriate for the next. Some options include fish farming and protected areas or temporary no-take areas.

The mapping exercise with 9 people surrounding the map and shortly afterward there were only 4. Three participants were talking at the same time while the other guy quietly observed in the back.

One of the fishers who dominated the exercise said that before reefs there is a sandy basin which is good for jacks and robins. Lobsters like to hide under rocks and as they get bigger they move further away from the shore. One diver mentioned catching lobster up to 100+ ft. which is why they must use tanks. According to these fishers, the mangrove near Windward is never out of baby lobster, making it an important nursery ground.

Lambie (Conch) are generally found in grassy bottom areas on the outside of reefs and in between small channels...some are found in deeper waters than others. Turtle are also found in these small channels. In contrast to the PM fishers, these fishers do go fishing near Isle de Rhonde but only during the day time.

Three more guys came behind for a short while then walked off...this was probably because they were only interested in observing the process, or they had something to contribute, but couldn't get a word in because of the others occupying the map. It is likely that if they had any disagreements they would have mentioned them.

*So far there have not been more than three persons that dominate a mapping exercise. It is probably best not to have more than four people around a map in order for the process to run smoothly. Carrying out the exercise with a few groups of 4 persons, one group at a time, has both benefits and drawbacks: there will be a certain degree of validation of the information contributed by the fishers in the groups before; you will have to explain the meaning of the different coloured dots as each new group approaches the map; dots laid down by previous groups may lend a certain bias towards fishing grounds for other groups, and you may hear responses like: "yeh yeh that looks right".*

It was agreed by the first group of 4 fishers that traps are let in line with Sail Rock, and tuna is fished approximately 20 miles off the shores of Grenada.

After 15 minutes the first group was finished with the mapping exercises and 5 other fishers were persuaded to take part in the mapping exercise. After explaining the drop-off and the meaning of the different coloured stickers they were asked where to find certain species or what species are found in certain areas (this second group required a lot more coaxing and leading. These guys also agreed, in contrast to the PM and Union fishers, that both the Western and Eastern sides of the Bank were good fishing grounds for snapper (one wasn't better than the other). When asked about towing for fish, the response was that the offshore pelagics like kingfish etc. are mostly caught 'over' (ie: eastern) the edge of the bank. Shallow ground species, on the other hand, are found on both edges of the bank. Isle de Rhonde is important for all kinds of fish because there is a lot of deep water around this island.

<b>Meeting:</b>	Harvey Vale-L'Estere Community/ Fishers Meeting and Mapping Exercise	<b>Date:</b>	17/10/2006
<b>Location:</b>	Cigarette Bar	<b>Numbers in attendance:</b>	27 (2 women)
<b>Time/Duration of meeting</b>	The presentation began at 6:33pm and finished at 7:15pm; the mapping exercise lasted for 13 minutes		

*Notes:*

This meeting was advertised through the use of flyers posted in the community and several trips to the community the day before and day of the meeting locating fishers. After waiting for a while for

more fishers to arrive, the presentations began and the following questions were answered during Kim's presentation:

**Question:** How do we put a stop to sewage and shutting down the plants that are causing this problem?

**Answer:** First need to locate them, then notify the authorities of what is occurring. We may be gathering the information, but it's up to the people to use it.

**Comment:** Should include mainland Grenada for the study (dive shops etc.)

**Response:** No, this project is for the communities of the Grenadines. The goal is to help the people of the Grenadines, not the mainland residents. It's impossible to do it all.

**Question:** What about barefoot fishermen?

**Answer:** The study was limited to those who fish for their livelihoods and are therefore dependent on fishing. We tried to get all the fishers we could.

During the fishing presentation, there was agreement with the customer information and the physical capital requirements for Harvey Vale. One comment was that there needs to be a proper market for fish and they would like the government to be the middle man. Also, it would be good to find a market for fish that are not favoured by Martinique Trading Vessels for species such as the bonito etc. One fisher was very adamant about forming a co-operative.

The discussions became spread out and it was difficult to hear all the various conversations. They did agree that it was good information, and one person said that 90% of the information was accurate.

The mapping exercise began at 7:21pm with 6 people around the map. The mapping exercise started off talking with one guy and the shallow shelf demersal species. He asked about the jacks and robins which were next on the map. Another fisher began to speak up about turtles and said that there were a lot in front of Sandy Island. Lambie (conch) is also found by the Two Brothers' Islands, Saline and White Islands. At this time, three additional guys joined the mapping exercise. So far the dots were very concentrated around Carriacou. The eastern side of the bank, near Sail Rock, and 6-7 miles off of Carriacou are good areas for the offshore pelagics according to 3 guys.

The next fish species mapped was lobster banks. Two of the dominant participants agreed that snapper was caught near Isle de Rhonde. It was also asked if the fishers travel north and they said they did go as far as Union and Mustique for dolphinfish.

### ***OTHER MARINE RESOURCE USER MAPPING EXERCISES***

Additional information on other marine resource users' space-use was collected on an individual basis. Participants were introduced to a small version of the Grenada Bank basemap (Appendix 1) as well as an individual map of the Grenadine Island in which they were located on. Each participant was asked to hand-draw polygons around areas of importance to their respective livelihood. These mapping exercises were conducted primarily with dive shop operators to identify important Grenadine dive sites which were not located during the inventories conducted this summer. Additionally, dive shop operators were questioned on the existence of spawning aggregations. Each dive shop was shown a basemap of the Grenada Bank with annotated with points which were identified by The Nature Conservancy as areas of 'potential spawning aggregations' based on the geomorphology and current patterns. The probability of existence and the results of this mapping exercise will be presented in a subsequent report. Spatial data (ranked as top five anchorages) were

already collected in the summer for ferries and day tour operators. Further mapping of routes of the ferries may need to be conducted to get spatial data on shipping lanes of the Grenadines.

## **LESSONS LEARNT**

The communities of the Grenadine Islands are very unique and therefore special consideration must be taken for each island. In the larger islands, the use of radio advertisements may be necessary to publicise the meetings better. The use of key informants must be limited to organising time and locations of meetings; but for the most part they were not capable of advertising the meetings adequately (with the exception of Mustique). Additionally, at least a day in advance in each island must be taken to spread the word and make personal visits to the various marine resource users. Walking the streets in the evening time and chatting with community members proved a successful method as well. The importance of staying overnight in each island is essential for success in order to be seen by and talk with community members regarding the upcoming meeting and better understand the issues occurring in each island. In respect to fishers meetings, it was found that meetings held during the evening time (6-7 pm) worked the best at a location where the fishers usually 'lime' anyhow (ie: rum shop, fishing camp). Personal phone calls seemed to work well as well as the use of flyers posted around the smaller communities. A complete report on the lessons learnt and the participatory mapping exercise methodologies will be published next year.

## **UPCOMING ACTIVITIES FOR THE GRENADINES MarSIS**

During the duration of this year, spatial data and technical reports will be compiled on the Grenadine marine resource users. A technical report on the marine space-use findings as well as GIS shapefiles on Grenadine marine space-use will be produced and released to all stakeholders by early next year. Validation and feedback from these meetings and all spatial data collected thus far will be included in this comprehensive report. Additionally, three presentations on the Grenadines MarSIS research (Marine Resource User Profiles, Socio-economic Profile of Grenadine Fishers and a Livelihood Analyses of Grenadine Fishers) will be presented at the 2006 Gulf & Caribbean Fisheries Institute Conference in November in Belize.

Early next year, another round of stakeholder meetings will be conducted. In each of the Grenadine islands, additional spatial data collection will comprise of community participatory coastal marine resource and habitat mapping exercises. Further investigation on the influence of Martinique in the Grenadines (both in fishing and tourism) will be explored as well as an additional survey of fish trading vessels and Grenadine ships. In the spring, all spatial information will be presented for feedback and validation by marine resource users and areas of marine space-use conflict and overlap will be identified. By the end of 2007, the MarSIS geodatabase will be constructed and a variety of stakeholder utilisation workshops will be conducted to examine the usefulness of and evaluate the MarSIS geodatabase.

## **ACKNOWLEDGEMENTS**

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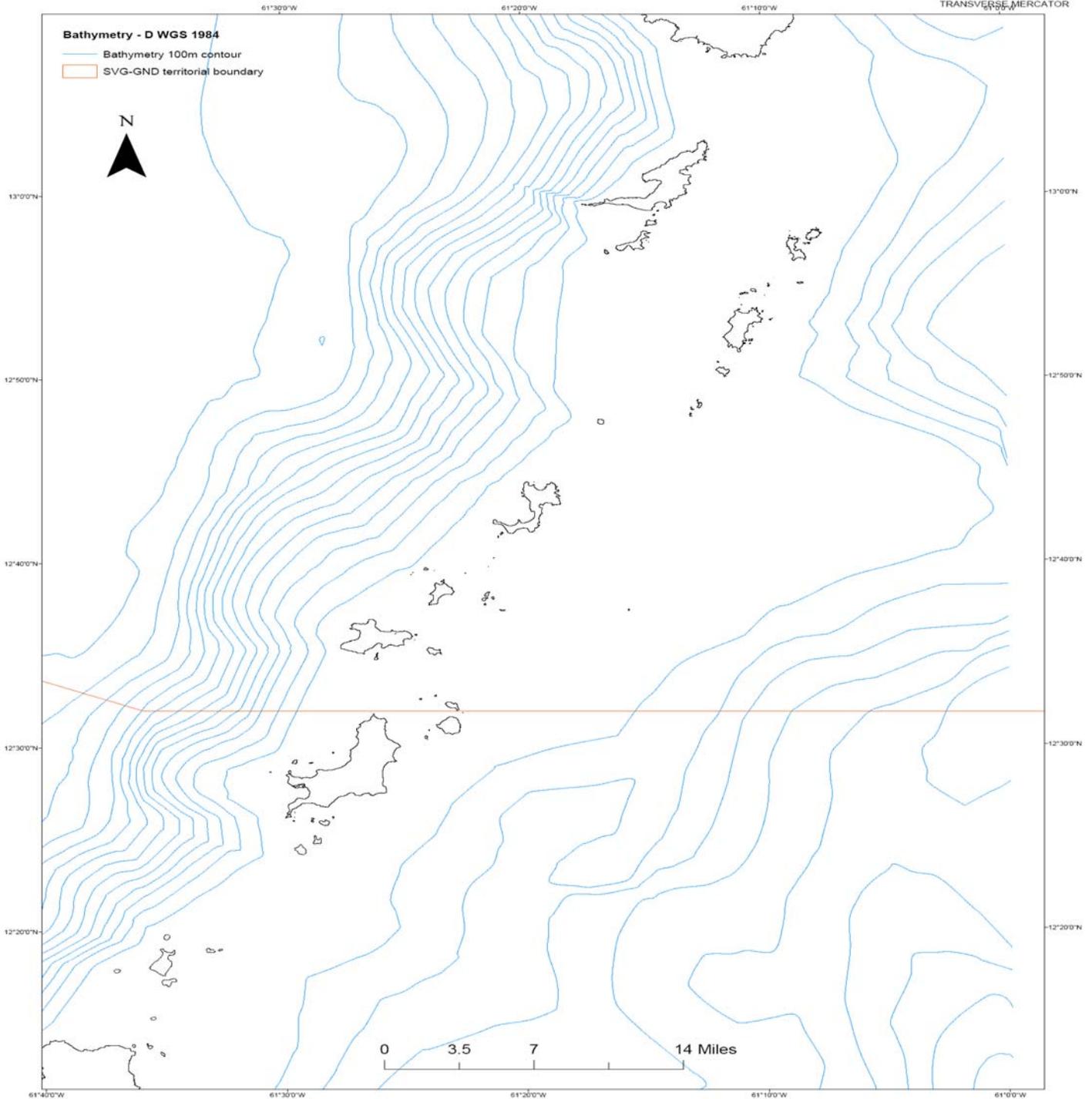
THANKS!!!

## APPENDICES

### Appendix 1. Basemap of the Grenada Bank used in fishing mapping exercises.

St. Vincent & the Grenadines 1:90,000

SHEET GRENADINES 1  
EDITION 2 SEPTMBER 2006  
WGS 84 ZONE 20  
TRANSVERSE MERCATOR



Sustainable  
Grenadines  
Project



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